

**FACT SHEET FOR NPDES PERMIT NO. WA0024449**  
**SEKIU WASTEWATER TREATMENT PLANT**

March 17, 2000

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## INTRODUCTION

The Federal Clean Water Act (FCWA, 1972, and later modifications, 1977, 1981, and 1987) established water quality goals for the navigable (surface) waters of the United States. One of the mechanisms for achieving the goals of the Clean Water Act is the National Pollutant Discharge Elimination System of permits (NPDES), which is administered by the Environmental Protection Agency (EPA). The EPA has delegated responsibility to administer the NPDES permit program to the state of Washington on the basis of Chapter 90.48 Revised Code of Washington (RCW) which defines the Department of Ecology's (Department) authority and obligations in administering the wastewater discharge permit program.

The regulations adopted by the state include procedures for issuing permits [Chapter 173-220 Washington Administrative Code (WAC)], technical criteria for discharges from municipal wastewater treatment facilities (Chapter 173-221 WAC), water quality criteria for surface and ground waters (Chapters 173-201A and 200 WAC), and sediment management standards (Chapter 173-204 WAC). These regulations require that a permit be issued before discharge of wastewater to waters of the state is allowed. The regulations also establish the basis for effluent limitations and other requirements which are to be included in the permit. One of the requirements (WAC 173-220-060) for issuing a permit under the NPDES permit program is the preparation of a draft permit and an accompanying fact sheet. Public notice of the availability of the draft permit is required at least thirty days before the permit is issued (WAC 173-220-050). The fact sheet and draft permit are available for review (see [Appendix A--Public Involvement](#) of the fact sheet for more detail on the Public Notice procedures).

The fact sheet and draft permit have been reviewed by the Permittee. Errors and omissions identified in this review have been corrected before going to public notice. After the public comment period has closed, the Department will summarize the substantive comments and the response to each comment. The summary and response to comments will become part of the file on the permit and parties submitting comments will receive a copy of the Department's response. The fact sheet will not be revised. Comments and the resultant changes to the permit will be summarized in Appendix D--Response to Comments.

| GENERAL INFORMATION        |   |
|----------------------------|---|
| Applicant                  | Clallam County Road Department<br>223 East 4 <sup>th</sup> Street<br>Port Angeles, WA 98362                     |
| Facility Name and Address: | Sekiu Wastewater Treatment Plant<br>Sekiu, Washington   |
| Type of Treatment:         | Rotating Biological Contactors  |
| Discharge Location:        | Clallam Bay – Strait of Juan de Fuca<br>Latitude: 48° 16' 07" N                      Longitude: 124° 17' 47" W. |
| Water Body ID Number:      | WA-19-0019  |

## BACKGROUND INFORMATION

### DESCRIPTION OF THE FACILITY

#### HISTORY

The original Rotating Biological Contactors (RBC) began operation at the Seki wastewater treatment plant (WWTP) in 1977. Within the first year the RBC media failed and the RBC process ceased operation. Hence, the effluent did not meet design standards.

The Permittee submitted an application to the Department for a waiver of secondary standards. The Department denied the waiver and the Permittee had to design and construct a different secondary treatment system.

The population projection to design the WWTP after the RBC failure was based on a permanent population, expectations for growth due to a new state prison's staff requiring residences, visitors to the prison who stay overnight, and summer tourist activity.

A 1985 report titled, *Clallam Bay and Seki Wastewater Treatment Plants, Expansion and Upgrading, Ten Percent Design Report*, evaluated several treatment processes. The selected alternative was to replace the failed RBC with a new RBC. This work probably occurred during 1985.

#### COLLECTION SYSTEM STATUS

The permit writer could not locate information that describes the year of construction of the wastewater collection system. According to the 1985 report, "The Seki plant receives substantial amounts of inflow and infiltration (I/I), based on a review of the 1983 winter flow data." That report states:

The I/I is projected to be reduced in future years through the renovation and repair of the existing sewers, and the construction of new, "tighter" sewers. The County has completed a review of the Seki collection system, and has identified a few areas of probable I/I problems. The County is proposing to request Referendum 39 funds to conduct an I/I study to identify the problem areas and make repairs to the sewer system.

The permit writer does not have information if projects to remove I/I were completed. The Permittee replaced a portion of the collection system in 1998 that contributed to the I/I problem.

The system still has problems with I/I and these extraneous flows cause the WWTP effluent to violate the NPDES permit limitations for percent removal. In addition, the growth projected in the planning report did not occur. Monthly loading to the WWTP can be as low as one-third of the influent design capacity.

#### TREATMENT PROCESSES

The treatment system is comprised of a bar screen, grit removal chamber, primary clarifier, RBCs, secondary clarifier, and chlorine contact chamber. An aerobic digester treats the sludge from the primary and secondary clarifiers.

#### DISCHARGE OUTFALL

The effluent from the Seki WWTP combines with effluent from the Clallam Bay Corrections Center's WWTP before discharge into the receiving water of Clallam Bay. The combined effluent discharges through a 12-inch diameter pipe located approximately 520 feet from the shore, at a depth of 16 feet

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below Mean Lower Low Water (MLLW). For evaluating compliance with the state water quality standards, the permit writer included both discharges in the mathematical calculations and evaluations.

**RESIDUAL SOLIDS**

The treatment plant remove solids during the treatment of the wastewater at the headworks (grit and screenings), and at the primary and secondary clarifiers, in addition to incidental solids (rags, scum, and other debris) removed as part of the routine maintenance of the equipment. Grit, rags, scum and screenings are drained and disposed of as solid waste at the local landfill. Solids removed from the secondary clarifier are treated in an aerobic digester and land applied under a permit from the Clallam County Health District.

*PERMIT STATUS*

The previous permit for this discharge was issued on August 22, 1985, and expired on August 22, 1990. The previous permit placed effluent limitations on 5-day Biochemical Oxygen Demand (BOD<sub>5</sub>), Total Suspended Solids (TSS), pH, and fecal coliform bacteria.

An application for permit renewal was submitted to the Department on April 17, 1996, but the Department did not provide a timely review of the application.

*SUMMARY OF COMPLIANCE WITH THE PREVIOUS PERMIT*

During the period of time from January 1995, through December 1998, the discharge has exceeded: the concentration limitation for BOD<sub>5</sub> 6 times, the percent removal limitation for BOD<sub>5</sub> 15 times, the concentration limitation for TSS 5 times, the percent removal limitation for TSS 33 times, and the monthly geometric mean for fecal coliform bacteria 2 times based on Discharge Monitoring Reports (DMRs) submitted to the Department. From January 1999 through October 1999, however, the discharge has been in compliance with the permit limitations.

*WASTEWATER CHARACTERIZATION*

The Permittee has reported the concentration of pollutants in the discharge in the DMR. Using DMR data from January 1995, through December 1998, the Department calculated the following:

**Table 1: Wastewater Characterization**

| Parameter                              | Value     |
|--|-----------|
| Influent Flow                          |           |
| Average                                | 0.058 MGD |
| <sup>1</sup> Average <sub>winter</sub> | 0.074 MGD |
| <sup>2</sup> Average <sub>summer</sub> | 0.042 MGD |
| Influent BOD <sub>5</sub>              | 49 lb/d   |
| Influent TSS                           | 35 lb/d   |
| Effluent Total Chlorine Residuals      | 0.7 mg/L  |

<sup>1</sup>winter – October through April

<sup>2</sup>summer – May through September

## PROPOSED PERMIT LIMITATIONS

Federal and state regulations require that effluent limitations set forth in a NPDES permit must be either technology or water quality-based. Technology-based limitations for municipal discharges are set by regulation (40 CFR 133, and Chapters 173-220 and 173-221 WAC). Water quality-based limitations are based upon compliance with the Surface Water Quality Standards (Chapter 173-201A WAC), Ground Water Standards (Chapter 173-200 WAC), Sediment Quality Standards (Chapter 173-204 WAC) or the National Toxics Rule (Federal Register, Volume 57, No. 246, Tuesday, December 22, 1992.) The most stringent of these types of limits must be chosen for each of the parameters of concern. Each of these types of limits is described in more detail below.

The limits in this permit are based in part on information received in the application. The effluent constituents in the application were evaluated on a technology- and water quality-basis. The limits necessary to meet the rules and regulations of the state of Washington were determined and included in this permit. The Department does not develop effluent limits for all pollutants that may be reported on the application as present in the effluent. Some pollutants are not treatable at the concentrations reported, are not controllable at the source, are not listed in regulation, and do not have a reasonable potential to cause a water quality violation. If significant changes occur in any constituent, as described in 40 CFR 122.42(a), the Permittee is required to notify the Department.

### DESIGN CRITERIA

In accordance with WAC 173-220-150 (1)(g), flows or waste loadings shall not exceed approved design criteria.

The Department obtained the following design criteria for the WWTP from the engineering report titled, *Clallam Bay and Sekiu Wastewater Treatment Plants Expansion and Upgrading, Ten Percent Design Report* prepared by Culp, Wesner, Culp in 1985.

**Table 2: Design Standards for Sekiu WWTP.**

| Parameter                         | Design Quantity |
|-----------------------------------|-----------------|
| Average daily flow                | 0.15 MGD        |
| BOD <sub>5</sub> influent loading | 135 lbs/day     |
| TSS influent loading              | 171 lbs/day     |
| Design population equivalent      | 1542            |

### TECHNOLOGY-BASED EFFLUENT LIMITATIONS

Municipal wastewater treatment plants are a category of discharger for which technology-based effluent limits have been promulgated by federal and state regulations. These effluent limitations are given in the Code of Federal Regulations (CFR) 40 CFR Part 133 (federal) and in Chapter 173-221 WAC (state). These regulations are performance standards that constitute all known available and reasonable methods of prevention, control, and treatment for municipal wastewater.

The following technology-based limits for pH, fecal coliform bacteria, BOD<sub>5</sub>, and TSS are taken from Chapter 173-221 WAC are:

**Table 3: Technology-based Limits.**

| Parameter               | Limit  |
|-------------------------|--|
| pH:                     | shall be within the range of 6 to 9 standard units.  |
| Fecal Coliform Bacteria | Monthly Geometric Mean = 200 organisms/100 mL<br>Weekly Geometric Mean = 400 organisms/100 mL  |
| BOD <sub>5</sub>        | Average Monthly Limit is the most stringent of the following:<br>- 30 mg/L<br>- shall not exceed fifteen percent (15%) of the average influent concentration<br>Average Weekly Limit = 45 mg/L |
| TSS                     | Average Monthly Limit is the most stringent of the following:<br>- 30 mg/L<br>- shall not exceed fifteen percent (15%) of the average influent concentration<br>Average Weekly Limit = 45 mg/L |

The Department has established a technology-based monthly average limitation for chlorine from standard operating practices. The Water Pollution Control Federation's Chlorination of Wastewater (1976) states that a properly designed and maintained wastewater treatment plant can achieve adequate disinfection if a 0.5 mg/liter chlorine residual is maintained after fifteen minutes of contact time. (See also Metcalf and Eddy, Wastewater Engineering, Treatment, Disposal and Reuse, Third Edition, 1991.) A treatment plant that provides adequate chlorination contact time can meet the 0.5 mg/liter chlorine limit on a monthly average basis. According to WAC 173-221-030(11)(b), the corresponding weekly average is 0.75 mg/liter.

The federal secondary treatment regulation, 40 CFR 33, allows a lower percent removal requirement for less concentrated influent wastewater for separate sewers. However, the permittee must comply with several conditions listed in 40 CFR 133.102(d). The permit writer evaluated Sekiu's wastewater for compliance with 40 CFR 133.102(d) but the wastewater does not comply with subpart (3) that requires the less concentrated influent wastewater is not the result of excessive infiltration/inflow (I/I). The federal regulation describes excessive I/I in 40 CFR 35.2005 and 40 CFR 35.2120.

The following technology-based mass limits are based on WAC 173-220-130(3)(b) and 173-221-030(11)(b).

Monthly effluent mass loadings (lbs/day) for BOD<sub>5</sub> and TSS are calculated according to the following equation: average monthly design flow (0.15 MGD) x concentration limit (30 mg/L) x 8.34 (lbs/day/MGD/mg/L) = mass limit (37.5 lbs/day).

However, the Department must also consider the design criteria to evaluate the mass based limitations. Monthly effluent mass loadings for BOD<sub>5</sub> and TSS calculated using the average monthly influent design flow follow:

$$\text{BOD}_5: 135 \text{ lb/day} \times 0.15 = 20 \text{ lb/day}$$

$$\text{TSS}: 171 \text{ lb/day} \times 0.15 = 26 \text{ lb/day}$$

Since the mass limitations based on the design criteria for influent loadings are more conservative than the mass limitations calculated from the design flow, the loading based limitations are placed in the proposed permit.



The weekly average effluent mass loading are:

$$\text{BOD}_5: 20 \text{ lbs/day} \times 1.5 = 30 \text{ lbs/day}$$

$$\text{TSS}: 26 \text{ lbs/day} \times 1.5 = 39 \text{ lbs/day}$$

#### *SURFACE WATER QUALITY-BASED EFFLUENT LIMITATIONS*

In order to protect existing water quality and preserve the designated beneficial uses of Washington's surface waters, WAC 173-201A-060 states that waste discharge permits shall be conditioned such that the discharge will meet established Surface Water Quality Standards. The Washington State Surface Water Quality Standards (Chapter 173-201A WAC) is a state regulation designed to protect the beneficial uses of the surface waters of the state. Water quality-based effluent limitations may be based on an individual waste load allocation (WLA) or on a WLA developed during a basin-wide total maximum daily loading study (TMDL).

#### NUMERICAL CRITERIA FOR THE PROTECTION OF AQUATIC LIFE

"Numerical" water quality criteria are numerical values set forth in the State of Washington's Water Quality Standards for Surface Waters (Chapter 173-201A WAC). They specify the levels of pollutants allowed in a receiving water while remaining protective of aquatic life. Numerical criteria set forth in the Water Quality Standards are used along with chemical and physical data for the wastewater and receiving water to derive the effluent limits in the discharge permit. When surface water quality-based limits are more stringent or potentially more stringent than technology-based limitations, they must be used in a permit.

#### NUMERICAL CRITERIA FOR THE PROTECTION OF HUMAN HEALTH

The state was issued 91 numeric water quality criteria for the protection of human health by the U.S. EPA (EPA 1992). These criteria are designed to protect humans from cancer and other disease and are primarily applicable to fish and shellfish consumption and drinking water from surface waters.

#### NARRATIVE CRITERIA

In addition to numerical criteria, "narrative" water quality criteria (WAC 173-201A-030) limit toxic, radioactive, or deleterious material concentrations below those which have the potential to adversely affect characteristic water uses, cause acute or chronic toxicity to biota, impair aesthetic values, or adversely affect human health. Narrative criteria protect the specific beneficial uses of all fresh (WAC 173-201A-130) and marine (WAC 173-201A-140) waters in the state of Washington.

#### ANTIDEGRADATION

The State of Washington's Antidegradation Policy requires that discharges into a receiving water shall not further degrade the existing water quality of the water body. In cases where the natural conditions of a receiving water are of lower quality than the criteria assigned, the natural conditions shall constitute the water quality criteria. Similarly, when the natural conditions of a receiving water are of higher quality than the criteria assigned, the natural conditions shall constitute the water quality criteria. More information on the State Antidegradation Policy can be obtained by referring to WAC 173-201A-070.

#### CRITICAL CONDITIONS

Surface water quality-based limits are derived for the waterbody's critical condition, which represents the receiving water and waste discharge condition with the highest potential for adverse impact on the aquatic biota, human health, and existing or characteristic water body uses.

## MIXING ZONES

The Water Quality Standards allow the Department to authorize mixing zones around a point of discharge in establishing surface water quality-based effluent limits. Both "acute" and "chronic" mixing zones may be authorized for pollutants that can have a toxic effect on the aquatic environment near the point of discharge. The concentration of pollutants at the boundary of these mixing zones may not exceed the numerical criteria for that type of zone. Mixing zones can only be authorized for discharges that are receiving all known, available, and reasonable methods of prevention, control and treatment (AKART) and in accordance with other mixing zone requirements of WAC 173-201A-100.

The National Toxics Rule (EPA, 1992) allows the chronic mixing zone to be used to meet human health criteria.

## DESCRIPTION OF THE RECEIVING WATER

The combined effluent from the Seki and the Clallam Bay Correction Center WWTPs discharges to the Strait of Juan de Fuca. This surface water is designated as a Class AA receiving water according to WAC 173-201A-140. Other nearby point source outfall for the Clallam Bay WWTP. Characteristic uses, as defined in WAC 173-201A-030, for Class AA (Extraordinary) include the following:

fish migration; fish and shellfish rearing, spawning and harvesting; wildlife habitat;  
primary contact recreation; sport fishing; boating and aesthetic enjoyment; commerce and navigation.

Water quality of this class shall markedly and uniformly exceed the requirements for all or substantially all uses.

## SURFACE WATER QUALITY CRITERIA

Chapter 173-201A WAC defines the applicable criteria for aquatic biota. In addition, U.S. EPA has promulgated human health criteria for toxic pollutants (EPA 1992). Criteria for this discharge are summarized below:

|                         |   |
|-------------------------|---|
| Fecal Coliform Bacteria | Shall not exceed 14 organisms/100 mL as a geometric mean, and not have more than 10 percent of all samples obtained for calculating the geometric mean value exceeding 43 colonies/100 mL.  |
| Dissolved Oxygen        | Shall exceed 7 mg/L. When natural conditions, such as upwelling, occur, causing the dissolved oxygen to be depressed near or below 7.0 mg/L, natural dissolved oxygen levels may be degraded by up to 0.2 mg/L by human-caused activities.                            |
| Temperature             | Temperature shall not exceed 13.0 degrees Centigrade due to human activities. When natural conditions exceed 13 degrees Centigrade, no temperature increases will be allowed which will raise the receiving water temperature by greater than 0.3 degrees Centigrade. |
| pH                      | In the range of 7.0 to 8.5 with a human-caused variation within the above range of less than 0.2 units.   |
| Turbidity               | Shall not exceed 5 NTU over background turbidity when the background turbidity is 50 NTU or less, or have more than a 10 percent increase in turbidity when the background turbidity is more than 50 NTU.   |
| Toxics                  | No toxics in toxic amounts (see Appendix C for numeric criteria for toxics of concern for this discharge)   |

CONSIDERATION OF SURFACE WATER QUALITY-BASED LIMITS FOR NUMERIC CRITERIA

Pollutant concentrations in the proposed discharge exceed water quality criteria with technology-based controls that the Department has determined to be AKART. Mixing zones are authorized in accordance with the geometric configuration, flow restriction, and other restrictions for mixing zones in Chapter 173-201A WAC and are defined as follows:

The dilution factors of effluent to receiving water that occur within these zones have been determined at the critical condition by the use of the 3Plumes interface. The computer program calculated the dilution factors presented in Table 4:

**Table 4: Dilution Factors At the Boundaries of the Acute and Chronic Mixing Zones.**

|                  | Acute  |        | Chronic |        |
|------------------|--------|--------|---------|--------|
| Dilution Factors | Winter | Summer | Winter  | Summer |
|                  | 33     | 142    | 719     | 800    |

Pollutants in an effluent may affect the aquatic environment near the point of discharge (near field) or at a considerable distance from the point of discharge (far field). Toxic pollutants, for example, are near-field pollutants--their adverse effects diminish rapidly with mixing in the receiving water. Conversely, a pollutant such as BOD is a far-field pollutant whose adverse effect occurs away from the discharge even after dilution has occurred. Thus, the method of calculating water quality-based effluent limits varies with the point at which the pollutant has its maximum effect.

The derivation of water quality-based limits also takes into account the variability of the pollutant concentrations in both the effluent and the receiving water.

The permit writer obtained the ambient background data used for this permit from the Department's ambient water database. Table 5 lists the receiving water ambient data includes the following from (insert source):

**Table 5: Receiving Water Ambient Data**

| Parameter        | Value                                |                                      |
|------------------|--------------------------------------|--------------------------------------|
| Current Velocity | 50 <sup>th</sup> Percentile 0.44 m/s | 10 <sup>th</sup> Percentile 0.14 m/s |
| Depth            | 4.9 m                                |                                      |
| Temperature      | Summer 11.3 – 10.4 °C                | Winter 7.7 – 7.6 °C                  |
| pH (high)        | 7.8                                  |                                      |
| Total Ammonia-N  | 0.02 mg/L                            |                                      |
| Salinity         | Summer 31.3 – 31.6 ppt               | Winter 31.7 – 31.8 ppt               |

BOD<sub>5</sub>--This discharge with technology-based limitations results in a small amount of BOD loading relative to the large amount of dilution occurring in the receiving water at critical conditions. Technology-based limitations will be protective of dissolved oxygen criteria in the receiving water.

Temperature--The impact of the discharge on the temperature of the receiving water was modeled by simple mixing analysis at critical condition. The receiving water temperature at the critical condition is 11.3 degrees Centigrade and the effluent temperature is 19 degrees Centigrade. The predicted resultant temperature at the boundary of the chronic mixing zone is 11.3 degrees Centigrade and the incremental rise is 0.01 degrees Centigrade.

Under critical conditions there is no predicted violation of the Water Quality Standards for Surface Waters. Therefore, no effluent limitation for temperature was placed in the proposed permit.

pH--Because of the high buffering capacity of marine water, compliance with the technology-based limits of 6 to 9 will assure compliance with the Water Quality Standards for Surface Waters.

Fecal coliform bacteria--The numbers of fecal coliform bacteria were modeled by simple mixing analysis using the technology-based limit of 400 organisms per 100 ml and a dilution factor of 719.

Under critical conditions there is no predicted violation of the Water Quality Standards for Surface Waters with the technology-based limit. Therefore, the technology-based effluent limitation for fecal coliform bacteria was placed in the proposed permit.

Toxic Pollutants--Federal regulations (40 CFR 122.44) require NPDES permits to contain effluent limits for toxic chemicals in an effluent whenever there is a reasonable potential for those chemicals to exceed the surface water quality criteria. This process occurs concurrently with the derivation of technology-based effluent limits. Facilities with technology-based effluent limits defined in regulation are not exempt from meeting the Water Quality Standards for Surface Waters or from having surface water quality-based effluent limits.

The toxic compound ammonia is present in treated domestic wastewater. The toxic element chlorine is present if chlorine is used as the disinfectant. The permit writer calculated the reasonable potential for chlorine and ammonia to determine if the permit will specify such effluent limitations.

The permit writer determined the reasonable potential for chlorine and ammonia to exceed the water quality criteria using procedures given in EPA, 1991 (Appendix C) at the critical condition. The critical condition in this case occurs during the winter. The parameters used in the critical condition modeling are as follows: acute dilution factor 33, chronic dilution factor 719, receiving water temperature 7.7 degrees Centigrade, 50<sup>th</sup> percentile current velocity 0.44 m/s, and 10<sup>th</sup> percentile current velocity 0.14 m/s. An ambient background value for ammonia is 0.02 mg/L.

Calculation of the reasonable potential analyses for chlorine and ammonia indicates only chlorine in the WWTP discharge has the potential to violate the water quality standards. Effluent limits were calculated using methods from EPA, 1991 as shown in Appendix C.

The resultant effluent limits are listed in Table 6.

**Table 6: Water Quality-based Limitations**

| Parameter                | Average Monthly Limit | Daily Maximum Limit |
|--------------------------|-----------------------|---------------------|
| Total Chlorine Residuals | 0.16 mg/L             | 0.43 mg/L           |

The calculated chlorine limitations achieve compliance with water quality standards for chlorine at the boundaries of the mixing zones. The effluents, however, are tested at the WWTPs for chlorine residual. The residence time the effluents have in the discharge piping should result in a reduction of the chlorine concentration. The Permittee could obtain an effluent sample from a manhole in the discharge pipe near the outfall terminus to evaluate compliance for chlorine.

The companion order contains a compliance schedule allowing the Permittee two years to meet the water quality-based limits. This compliance schedule allows the Permittee to evaluate the possibility of complying with the limitations by changes other than construction (e.g. monitoring for chlorine at an alternate location) before evaluating an alternative disinfection system or dechlorination.

For the first two years, the proposed permit specifies interim limitations for total chlorine residuals based on the Department's determination of technology-based limitations for chlorine. The final chlorine

limitations become effective two years after permit issuance or when the Permittee achieves compliance, whichever occurs first.

#### WHOLE EFFLUENT TOXICITY

The Water Quality Standards for Surface Waters require that the effluent not cause toxic effects in the receiving waters. Many toxic pollutants cannot be detected by commonly available detection methods. However, toxicity can be measured directly by exposing living organisms to the wastewater in laboratory tests and measuring the response of the organisms. Toxicity tests measure the aggregate toxicity of the whole effluent, and therefore this approach is called whole effluent toxicity (WET) testing.

Toxicity caused by unidentified pollutants is not expected in the effluent from this discharge as determined by the screening criteria given in Chapter 173-205 WAC. Therefore, no whole effluent toxicity testing is required in this permit. The Department may require effluent toxicity testing in the future if it receives information that toxicity may be present in this effluent.

#### HUMAN HEALTH

Washington's water quality standards include 91 numeric health-based criteria that must be considered in NPDES permits. These criteria were promulgated for the state by the U.S. EPA in its National Toxics Rule (Federal Register, Volume 57, No. 246, Tuesday, December 22, 1992).

The Department has determined that the applicant's discharge is unlikely to contain chemicals regulated for human health.

#### SEDIMENT QUALITY

The Department has promulgated aquatic sediment standards (Chapter 173-204 WAC) to protect aquatic biota and human health. These standards state that the Department may require Permittees to evaluate the potential for the discharge to cause a violation of applicable standards (WAC 173-204-400).

The Department has determined through a review of the discharger characteristics and effluent characteristics that this discharge has no reasonable potential to violate the Sediment Management Standards.

#### *GROUND WATER QUALITY LIMITATIONS*

The Department has promulgated Ground Water Quality Standards (Chapter 173-200 WAC) to protect uses of ground water. Permits issued by the Department shall be conditioned in such a manner so as not to allow violations of those standards (WAC 173-200-100).

This Permittee has no discharge to ground and therefore no limitations are required based on potential effects to ground water.

### **MONITORING REQUIREMENTS**

Monitoring, recording, and reporting are required (WAC 173-220-210 and 40 CFR 122.41) to verify that the treatment process is functioning correctly and the effluent limitations are being achieved.

Monitoring of sludge quantity and quality is necessary to determine the appropriate uses of the sludge. Sludge monitoring is required by the current state and local solid waste management program and also by EPA under 40 CFR 503.

The monitoring schedule is detailed in the proposed permit under Condition S.2. Specified monitoring frequencies take into account the quantity and variability of discharge, the treatment method, past compliance, significance of pollutants, and cost of monitoring. The required monitoring frequency is

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consistent with agency guidance given in the current version of the Department of Ecology's *Permit Writer's Manual* (July 1994) for a secondary domestic wastewater treatment plant with a design capacity of less than 1 million gallons per day.

*LAB ACCREDITATION*

With the exception of certain parameters the permit requires all monitoring data to be prepared by a laboratory registered or accredited under the provisions of Chapter 173-50 WAC, *Accreditation of Environmental Laboratories*. The laboratory at this facility is accredited for BOD<sub>5</sub>, TSS, Fecal Coliform Bacteria, Total Residual Chlorine, Dissolved Oxygen and pH.

**OTHER PERMIT CONDITIONS**

*REPORTING AND RECORDKEEPING*

The conditions of S3. are based on the authority to specify any appropriate reporting and recordkeeping requirements to prevent and control waste discharges (WAC 173-220-210).

*PREVENTION OF FACILITY OVERLOADING*

Overloading of the treatment plant is a violation of the terms and conditions of the permit. To prevent this from occurring, RCW 90.48.110 and WAC 173-220-150 require the Permittee to take the actions detailed in proposed permit requirement S.4. to plan expansions or modifications before existing capacity is reached and to report and correct conditions that could result in new or increased discharges of pollutants. Condition S.4. restricts the amount of flow.

*OPERATION AND MAINTENANCE (O&M)*

The proposed permit contains condition S.5. as authorized under RCW 90.48.110, WAC 173-220-150, Chapter 173-230 WAC, and WAC 173-240-080. It is included to ensure proper operation and regular maintenance of equipment, and to ensure that adequate safeguards are taken so that constructed facilities are used to their optimum potential in terms of pollutant capture and treatment.

*RESIDUAL SOLIDS HANDLING*

To prevent water quality problems the Permittee is required in permit condition S7. to store and handle all residual solids (grit, screenings, scum, sludge, and other solid waste) in accordance with the requirements of RCW 90.48.080 and State Water Quality Standards.

The final use and disposal of sewage sludge from this facility is regulated by U.S. EPA under 40 CFR 503. The disposal of other solid waste is under the jurisdiction of the Clallam County Health Department.

Requirements for monitoring sewage sludge and recordkeeping are included in this permit. This information is required under 40 CFR 503.

*PRETREATMENT*

*Duty to Enforce Discharge Prohibitions*

This provision prohibits the POTW from authorizing or permitting an industrial discharger to discharge certain types of waste into the sanitary sewer. The first portion of the provision prohibits acceptance of pollutants which cause pass through or interference. The definitions of pass through and interference are in Appendix B of the fact sheet.

The second portion of this provision prohibits the POTW from accepting certain specific types of wastes, namely those which are explosive, flammable, excessively acidic, basic, otherwise corrosive, or obstructive to the system. In addition wastes with excessive BOD, petroleum-based oils, or which result in toxic gases are prohibited to be discharged. The regulatory basis for these prohibitions is 40 CFR Part 403, with the exception of the pH provisions which are based on WAC 173-216-060.

The third portion of this provision prohibits certain types of discharges unless the POTW receives prior authorization from the Department. The discharges include cooling water in significant volumes, stormwater and other direct inflow sources, and wastewaters significantly affecting system hydraulic loading, which do not require treatment.

#### *OUTFALL EVALUATION*

Proposed permit condition S8 requires the Permittee to conduct an outfall inspection and submit a report detailing the findings of that inspection. The purpose of the inspection is to determine the condition of the discharge pipe and diffusers and to determine if sediment is accumulating in the vicinity of the outfall.

#### *GENERAL CONDITIONS*

General Conditions are based directly on state and federal law and regulations and have been standardized for all individual municipal NPDES permits issued by the Department.

Condition G1 requires responsible officials or their designated representatives to sign submittals to the Department. Condition G2 requires the Permittee to allow the Department to access the treatment system, production facility, and records related to the permit. Condition G3 specifies conditions for modifying, suspending or terminating the permit. Condition G4 requires the Permittee to apply to the Department prior to increasing or varying the discharge from the levels stated in the permit application. Condition G5 requires the Permittee to construct, modify, and operate the permitted facility in accordance with approved engineering documents. Condition G6 prohibits the Permittee from using the permit as a basis for violating any laws, statutes or regulations. Conditions G7 relates to permit renewal. Condition G8 prohibits the reintroduction of removed substances back into the effluent. Condition G9 states that the Department will modify or revoke and reissue the permit to conform to more stringent toxic effluent standards or prohibitions. Condition G10 incorporates by reference all other requirements of 40 CFR 122.41 and 122.42. Condition G11 notifies the Permittee that additional monitoring requirements may be established by the Department. Condition G12 requires the payment of permit fees. Condition G13 describes the penalties for violating permit conditions.

### **PERMIT ISSUANCE PROCEDURES**

#### *PERMIT MODIFICATIONS*

The Department may modify this permit to impose numerical limitations, if necessary to meet Water Quality Standards, Sediment Quality Standards, or Ground Water Standards, based on new information obtained from sources such as inspections, effluent monitoring, outfall studies, and effluent mixing studies.

The Department may also modify this permit as a result of new or amended state or federal regulations.

#### *RECOMMENDATION FOR PERMIT ISSUANCE*

This proposed permit meets all statutory requirements for authorizing a wastewater discharge, including those limitations and conditions believed necessary to protect human health, aquatic life, and the beneficial uses of waters of the state of Washington. The Department proposes that this permit be issued for five years.

## **REFERENCES FOR TEXT AND APPENDICES**

Environmental Protection Agency (EPA)

- 1992. National Toxics Rule. Federal Register, V. 57, No. 246, Tuesday, December 22, 1992.
- 1991. Technical Support Document for Water Quality-based Toxics Control. EPA/505/2-90-001.
- 1988. Technical Guidance on Supplementary Stream Design Conditions for Steady State Modeling. USEPA Office of Water, Washington, D.C.
- 1985. Water Quality Assessment: A Screening Procedure for Toxic and Conventional Pollutants in Surface and Ground Water. EPA/600/6-85/002a.
- 1983. Water Quality Standards Handbook. USEPA Office of Water, Washington, D.C.

Metcalf and Eddy.

- 1991. Wastewater Engineering, Treatment, Disposal, and Reuse. Third Edition.

Tsivoglou, E.C., and J.R. Wallace.

- 1972. Characterization of Stream Reaeration Capacity. EPA-R3-72-012. (Cited in EPA 1985 op.cit.)

Washington State Department of Ecology.

- 1994. Permit Writer's Manual. Publication Number 92-109

Water Pollution Control Federation.

- 1976. Chlorination of Wastewater.

Wright, R.M., and A.J. McDonnell.

- 1979. In-stream Deoxygenation Rate Prediction. Journal Environmental Engineering Division, ASCE. 105(E2). (Cited in EPA 1985 op.cit.)



## APPENDIX A--PUBLIC INVOLVEMENT INFORMATION

The Department has tentatively determined to reissue a permit to the Clallam County Road Department for the Seki WWTP. The permit contains conditions and effluent limitations described in this fact sheet.

The Department publicly noticed the intent to work on the permit on August 30, 1998, and September 6, 1998, in the *Peninsula Daily News* newspaper to inform the public.

The Department will publish a Public Notice of Draft (PNOD) on January 16, 2000, in the *Peninsula Daily News* newspaper to inform the public that a draft permit and fact sheet are available for review. Interested persons are invited to submit written comments regarding the draft permit. The draft permit, fact sheet, and related documents are available for inspection and copying between the hours of 8:00 a.m. and 5:00 p.m. weekdays, by appointment, at the regional office listed below. Written comments should be mailed to:

Water Quality Permit Coordinator  
Department of Ecology  
Southwest Regional Office  
P.O. Box 47775  
Olympia, WA 98504-7775.

Any interested party may comment on the draft permit or request a public hearing on this draft permit within the thirty (30) day comment period to the address above. The request for a hearing shall indicate the interest of the party and the reasons why the hearing is warranted. The Department will hold a hearing if it determines there is a significant public interest in the draft permit (WAC 173-220-090). Public notice regarding any hearing will be circulated at least thirty (30) days in advance of the hearing. People expressing an interest in this permit will be mailed an individual notice of hearing (WAC 173-220-100).

Comments should reference specific text followed by proposed modification or concern when possible. Comments may address technical issues, accuracy and completeness of information, the scope of the facility's proposed coverage, adequacy of environmental protection, permit conditions, or any other concern that would result from issuance of this permit.

The Department will consider all comments received within thirty (30) days from the date of public notice of draft indicated above, in formulating a final determination to issue, revise, or deny the permit. The Department's response to all significant comments is available upon request and will be mailed directly to people expressing an interest in this permit.

Further information may be obtained from the Department by telephone, (360) 407-6279, or by writing to the address listed above.

## APPENDIX B--GLOSSARY

**Acute Toxicity**--The lethal effect of a pollutant on an organism that occurs within a short period of time, usually 48 to 96 hours.

**AKART**-- An acronym for "all known, available, and reasonable methods of prevention, control, and treatment".

**Ambient Water Quality**--The existing environmental condition of the water in a receiving water body.

**Ammonia**--Ammonia is produced by the oxidation of nitrogenous materials in wastewater. Ammonia is toxic to aquatic organisms and exerts an oxygen demand. Ammonia also increases the amount of chlorine needed to disinfect wastewater.

**Average Monthly Discharge Limitation** --The highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month (except in the case of fecal coliform). The daily discharge is calculated as the average measurement of the pollutant over the day.

**Average Weekly Discharge Limitation** -- The highest allowable average of daily discharges over a calendar week, calculated as the sum of all daily discharges measured during a calendar week divided by the number of daily discharges measured during that week. The daily discharge is calculated as the average measurement of the pollutant over the day.

**Best Management Practices (BMPs)**--Schedules of activities, prohibitions of practices, maintenance procedures, and other physical, structural and/or managerial practices to prevent or reduce the pollution of waters of the state. BMPs include treatment systems, operating procedures, and practices to control: plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. BMPs may be further categorized as operational, source control, erosion and sediment control, and treatment BMPs.

**BOD<sub>5</sub>**—Five day biochemical oxygen demand is the quantity of oxygen utilized by a mixed population of microorganisms in an aerobic oxidation for five days at a controlled temperature of 20 degrees Centigrade. BOD is used in modeling to mathematically calculate the reduction of dissolved oxygen in a receiving water after effluent is discharged. Although BOD is not a specific compound, it is defined as a conventional pollutant under the federal Clean Water Act.

**Bypass**--The intentional diversion of waste streams from any portion of a treatment facility.

**Chlorine**--Chlorine is used to disinfect wastewater of pathogens contained in the gut of human beings. Chlorine is an oxidizing agent and is toxic to aquatic life.

**Chronic Toxicity**--The effect of a pollutant on an organism over a relatively long time, often 1/10 of an organism's lifespan or more. Chronic toxicity can measure survival, reproduction or growth rates, or other parameters to measure the toxic effects of a compound or combination of compounds.

**Clean Water Act (CWA)**--The Federal Water Pollution Control Act enacted by Public Law 92-500, as amended by Public Laws 95-217, 95-576, 96-483, 97-117; USC 1251 et seq.

**Combined Sewer Overflow (CSO)**--The event during which excess combined sewage flow caused by inflow is discharged from a combined sewer, rather than conveyed to the sewage treatment plant because either the capacity of the treatment plant or the combined sewer is exceeded.

**Compliance Inspection - Without Sampling**--A site visit for the purpose of determining the compliance of a facility with the terms and conditions of its permit or with applicable statutes and regulations.

**Compliance Inspection - With Sampling**--A site visit to accomplish the purpose of a Compliance Inspection - Without Sampling and as a minimum, sampling and analysis for all parameters with limits in the permit to ascertain compliance with those limits; and, for municipal facilities, sampling of influent to ascertain compliance with the percent removal requirement. Additional sampling may be conducted.

**Composite Sample**--A mixture of grab samples collected at the same sampling point at different times, formed either by continuous sampling or by mixing a minimum of four discrete samples. May be "time-composite"(collected at constant time intervals) or "flow-proportional" (collected either as a constant sample volume at time intervals proportional to stream flow, or collected by increasing the volume of each aliquot as the flow increased while maintaining a constant time interval between the aliquots.

**Construction Activity**--Clearing, grading, excavation and any other activity which disturbs the surface of the land. Such activities may include road building, construction of residential houses, office buildings, or industrial buildings, and demolition activity.

**Continuous Monitoring** --Uninterrupted, unless otherwise noted in the permit.

**Critical Condition**--The time during which the combination of receiving water and waste discharge conditions have the highest potential for causing toxicity in the receiving water environment. This situation usually occurs when the flow within a water body is low, thus, its ability to dilute effluent is reduced.

**Dilution Factor**—Usually a mathematical calculation of the dilution of effluent with the receiving water that occurs at the boundary of the mixing zone. Expressed as the inverse of the effluent fraction e.g., a dilution factor of 10 means the effluent comprises 10 percent by volume and the receiving water 90 percent.

**Engineering Report**--A document that examines the engineering and administrative aspects of a particular domestic or industrial wastewater facility. The report shall contain the appropriate information required in WAC 173-240-060 or 173-240-130.

**Fecal Coliform Bacteria**--Fecal coliform bacteria are used as indicators of pathogenic bacteria in the effluent that are harmful to humans. Pathogenic bacteria in wastewater discharges are controlled by disinfecting the wastewater. The presence of high numbers of fecal coliform bacteria in a water body can indicate the recent release of untreated wastewater and/or the presence of animal feces.

**Grab Sample**--A single sample or measurement taken at a specific time or over as short period of time as is feasible.

**Industrial User**-- A discharger of wastewater to the sanitary sewer which is not sanitary wastewater or is not equivalent to sanitary wastewater in character.

**Industrial Wastewater**--Water or liquid-carried waste from industrial or commercial processes, as distinct from domestic wastewater. These wastes may result from any process or activity of industry, manufacture, trade or business, from the development of any natural resource, or from animal operations such as feed lots, poultry houses, or dairies. The term includes contaminated storm water and, also, leachate from solid waste facilities.

**Infiltration and Inflow (I/I)**--"Infiltration" means the addition of ground water into a sewer through joints, the sewer pipe material, cracks, and other defects. "Inflow" means the addition of precipitation-caused drainage from roof drains, yard drains, basement drains, street catch basins, etc., into a sewer.

**Interference** -- A discharge which, alone or in conjunction with a discharge or discharges from other sources, both:

Inhibits or disrupts the POTW, its treatment processes or operations, or its sludge processes, use or disposal and;

Therefore is a cause of a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation) or of the prevention of sewage sludge use or disposal in compliance with the following statutory provisions and regulations or permits issued thereunder (or more stringent State or local regulations): Section 405 of the Clean Water Act, the Solid Waste Disposal Act (SWDA) (including title II, more commonly referred to as the Resource Conservation and Recovery Act (RCRA), and including State regulations contained in any State sludge management plan prepared pursuant to subtitle D of the SWDA), sludge regulations appearing in 40 CFR Part 507, the Clean Air Act, the Toxic Substances Control Act, and the Marine Protection, Research and Sanctuaries Act.

**Major Facility**--A facility discharging to surface water with an EPA rating score of greater than 80 points based on such factors as flow volume, toxic pollutant potential, and public health impact.

**Maximum Daily Discharge Limitation**--The highest allowable daily discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. The daily discharge is calculated as the average measurement of the pollutant over the day.

**Method Detection Level (MDL)**--The minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analyte concentration is above zero and is determined from analysis of a sample in a given matrix containing the analyte.

**Minor Facility**--A facility discharging to surface water with an EPA rating score of less than 80 points based on such factors as flow volume, toxic pollutant potential, and public health impact.

**Mixing Zone**--A volume of receiving water that surrounds an effluent discharge within which water quality criteria may be exceeded. The volume of the authorized mixing zone is specified in a facility's permit and follows procedures outlined in Chapter 173-201A WAC.

**National Pollutant Discharge Elimination System (NPDES)**--The NPDES (Section 402 of the Clean Water Act) is the Federal wastewater permitting system for discharges to navigable waters of the United States. Many states, including the state of Washington, have been delegated the authority to issue these permits. NPDES permits issued by Washington State permit writers are joint NPDES/State permits issued under both State and Federal laws.

**Pass through** -- A discharge which exits the POTW into waters of the--State in quantities or concentrations which, alone or in conjunction with a discharge or discharges from other sources, is a cause of a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation), or which is a cause of a violation of State water quality standards.

**pH**--The pH of a liquid measures its acidity or alkalinity. A pH of 7 is defined as neutral, and large variations above or below this value are considered harmful to most aquatic life.

**Potential Significant Industrial User**--A potential significant industrial user is defined as an Industrial User which does not meet the criteria for a Significant Industrial User, but which discharges wastewater meeting one or more of the following criteria:

- a. Exceeds 0.5 percent of treatment plant design capacity criteria and discharges <25,000 gallons per day or;
- b. Is a member of a group of similar industrial users which, taken together, have the potential to cause pass through or interference at the POTW (e.g. facilities which develop photographic film or paper, and car washes).

The Department may determine that a discharger initially classified as a potential significant industrial user should be managed as a significant industrial user.

**Quantitation Level (QL)**-- A calculated value five times the MDL (method detection level).

**Significant Industrial User (SIU)**--

- 1) All industrial users subject to Categorical Pretreatment Standards under 40 CFR 403.6 and 40 CFR Chapter I, Subchapter N and;
- 2) Any other industrial user that: discharges an average of 25,000 gallons per day or more of process wastewater to the POTW (excluding sanitary, noncontact cooling, and boiler blow-down wastewater); contributes a process wastestream that makes up five percent or more of the average dry weather hydraulic or organic capacity of the POTW treatment plant; or is designated as such by the Control Authority\* on the basis that the industrial user has a reasonable potential for adversely affecting the POTW's operation or for violating any pretreatment standard or requirement (in accordance with 40 CFR 403.8(f)(6)).

Upon finding that the industrial user meeting the criteria in paragraph 2, above, has no reasonable potential for adversely affecting the POTW's operation or for violating any pretreatment standard or requirement, the Control Authority\* may at any time, on its own initiative or in response to a petition received from an industrial user or POTW, and in accordance with 40 CFR 403.8(f)(6), determine that such industrial user is not a significant industrial user.

\*The term "Control Authority" refers to the Washington State Department of Ecology in the case of non-delegated POTWs or to the POTW in the case of delegated POTWs.

**State Waters**--Lakes, rivers, ponds, streams, inland waters, underground waters, salt waters, wetlands, and all other surface waters and watercourses within the jurisdiction of the state of Washington.

**Stormwater**--That portion of precipitation that does not naturally percolate into the ground or evaporate, but flows via overland flow, interflow, pipes, and other features of a storm water drainage system into a defined surface water body, or a constructed infiltration facility.

**Technology-based Effluent Limit**--A permit limit that is based on the ability of a treatment method to reduce the pollutant.

**Total Suspended Solids (TSS)**--Total suspended solids are the particulate materials in an effluent. Large quantities of TSS discharged to a receiving water may result in solids accumulation. Apart from any toxic effects attributable to substances leached out by water, suspended solids may kill fish, shellfish, and other aquatic organisms by causing abrasive injuries and by clogging the gills and respiratory passages of various aquatic fauna. Indirectly, suspended solids can screen out light and can promote and maintain the development of noxious conditions through oxygen depletion.

**Upset**--An exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the Permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, lack of preventative maintenance, or careless or improper operation.

**Water Quality-based Effluent Limit**--A limit on the concentration or mass of an effluent parameter that is intended to prevent the concentration of that parameter from exceeding its water quality criterion after it is discharged into a receiving water.

### **APPENDIX C--TECHNICAL CALCULATIONS**

Several of the Excel<sup>®</sup> spreadsheet tools used to evaluate a discharger's ability to meet Washington State water quality standards can be found on the Department's homepage at <http://www.wa.gov/ecology>.

**APPENDIX D--RESPONSE TO COMMENTS**  
**RECEIVED DURING THE PUBLIC COMMENT PERIOD**  
(for National Pollutant Discharge Elimination System (NPDES) Permit No. WA0024449)

The Department of Ecology (Ecology) has completed drafting the NPDES permit for the Sekiu Wastewater Treatment Plant, Sekiu, Washington. Comments were accepted on the draft permit for a 30-day period plus an additional 7-days because of a request by Puget Soundkeeper Alliance. At the close of the public comment period (February 23, 2000), Ecology received comments from only the following interested party:

Puget Soundkeeper Alliance, Seattle Washington

After a review of the comments, the permit did not require revision. This response to comments document is intended to reflect substantive comments, although Ecology responded to comments that were not substantive, and concerns on the proposed permit that were raised in the public comment period. Some of the comments have been edited for clarity. Some portions of the comments have been formatted in bold to follow the format of Puget Soundkeeper Alliance. The complete and unedited version of all the comments as they were received by Ecology will be kept in the public file, and are available during regular business hours for review. A summary of Ecology's response to the comments is provided below:

**Response to Comments from Puget Soundkeeper Alliance, Seattle, Washington:**

**1. Comment:**

Puget Soundkeeper Alliance (PSA) supports the addition of the residual chlorine effluent limitations in the new permit. The new permit limit of 0.5 mg/L (for the first two years of the permit) and 0.16 mg/L (for the second two years of the permit) are lower than the reported average residual chlorine concentration of 0.7 mg/L during the years 1995 through 1998. It is not clear why it would take two years for the Sekiu to comply with 0.7 mg/L. **PSA recommends that Sekiu be required to comply with the 0.7 mg/L concentration of residual chlorine during the first year of the permit.**

**Response:**

The NPDES permit requires Sekiu to comply with total residual chlorine limitations of 0.5 milligrams per liter (mg/l) as the monthly average and 0.75 mg/l as a daily maximum. Ecology has determined that municipal wastewater treatment plants can maintain these specific chlorine residual concentrations and meet the requirements for disinfection.

Two years after permit issuance that discharge the permit requires the discharge to comply with water quality based total chlorine limitations of 0.16 mg/l as the monthly average and 0.43 mg/l as the daily maximum.

**Action Taken:**

This comment does not result in changes to the permit.

**2. Comment:**

PSA is concerned about the addition of mixing zones to the new permit, since the old permit did not include mixing zones. PSA does not support the use of mixing zones for facility compliance when it can not meet water quality standards, especially for toxic pollutants. The use of AKART, “all known, available, and reasonable methods of prevention control and treatment”, is required prior to authorizing mixing zones. No AKART analysis is supplied in the fact sheet. Given the number of recent permit violations, ongoing problems with inflow and infiltration (I/I) and the lack of influent monitoring, PSA questions whether Sekiu is actually using AKART and whether Ecology can authorize mixing zones.

PSA is concerned that the mixing zone descriptions do not specify what effluents are subject to the mixing zone portion of the permit. The fact sheet implies that the mixing zone boundaries would be applied to temperature and chlorine, but no parameters are stated in the permit.

**PSA recommends that S1.C. Mixing Zone Descriptions be removed from the permit until the use of AKART can be proved.**

**Response:**

Mixing zones are allowed under WAC 173-201A. WAC 173-201A-100(2) requires a discharger to apply AKART prior to Ecology authorizing a mixing zone. AKART for municipal wastewater treatment plants is secondary treatment. This Sekiu has.

Ecology evaluated all parameters in Sekiu’s discharge that have water quality standards for compliance with WAC 173-201A.

**Action Taken:**

This comment does not result in changes to the permit.

**3. Comment:**

The monitoring schedule, S2. Monitoring Requirements, has been changed considerably from the old permit. First, the parameters pH, temperature, and flow data have been removed from influent flow monitoring. It is uncertain why pH and temperature have been removed and it is inconceivable why influent flow data would not be monitored given the I/I problems. In addition, the sample point locations for the monitored parameters have been removed. It is unclear where these parameters will be monitored. Are they monitored at the mixing zone, at the outfall, or at the plant?

The effluent monitoring parameters have also been changed. Dissolved oxygen and temperature have been removed with no discussion in the fact sheet. The sample locations have been removed.

On page 10, the fact sheet suggests Sekiu “could obtain an effluent sample from a manhole in the discharge pipe near the outfall terminus to evaluate compliance for chlorine.” Chlorine testing should be done where samples are pulled for other monitored effluents. Just because elemental chlorine changes form as it goes down the outfall pipe does not mean it disappears.



**PSA recommends that Ecology add back the monitoring parameters and sample point location requirements from the old permit.**

**Response:**

The monitoring schedule reflects the recommendations in Ecology's *Permit Writers Manual*. Temperature and pH are consistent in municipal wastewater and do not require influent monitoring. The permit requires effluent pH monitoring because pH has a secondary treatment standard.

The Seki wastewater treatment plant does not have an influent flow meter. Flow is measured at the end of the treatment system. Conservation of mass dictates that what goes in must come out, so effluent flow metering is adequate.

Seki has the option of testing the effluent at another location closer to the actual discharge. Because of convenience, setup, and protection of sampling equipment, this task is usually performed at the treatment plant. However, to assess a parameter such as total residual chlorine, which can be stripped to the atmosphere or used in oxidizing organic matter, a sampling location closer to the actual discharge location will provide more accurate information for determining compliance with the permit limitations.

**Action Taken:**

This comment does not result in changes to the permit.

**4. Comment:**

The fact sheet, page 4, states the average daily flow for the Seki WWTP is 0.15 MGD, but the permit, page 10, states the average daily flow is 0.145 MGD. **This discrepancy should be clarified in the permit and fact sheet.**

**Response:**

Ecology merely rounded the design criteria to the nearest hundredth of the million gallon per day value. This rounding of the value has no implications regarding development of the permit limitations.

**Action Taken:**

No action will be taken on this comment.

**5. Comment:**

PSA is concerned that neither Ecology or Seki have any idea of the status of I/I. Page 2 of the fact sheet states "the (collection) system still has problems with I/I and these extraneous flows cause the WWTP effluent to violate the NPDES permit limitations for percent removal." The permit writer also notes that he does not have information about I/I project status. Page 3 of the fact sheet summarizes Seki's compliance with the existing permit. Sixty-one violations are noted for BOD (5 day), TSS, and fecal coliform since 1995. Forty-eight of the violations are for percent removal limitations. It was also noted that there were not violations during the January

through October 1999, but no explanation was given, though it was noted on page 2 of the fact sheet that Sekiu “replaced a portion of the collection system in 1998 that contributed to the I/I problem.”

PSA supports the permit requirement for Sekiu to conduct an I/I evaluation, which includes locating the sources of the I/I and a plan for correcting the problem. **PSA urges Ecology to include in the I/I plan requirement that repairs or upgrades to the collection system be made during the 5-year permit life to fix the I/I problem.**

**Response:**

Collection system rehabilitation to prevent the inclusion of I/I is costly and, as previous projects throughout western Washington attest, has often resulted in little improvement. Requiring repair work to be completed during the 5 years the permit is effective would not allow Sekiu the time to study, design and construct collection system rehabilitation projects without an opportunity to obtain alternative sources of funding. With the changes to commercial and recreational fishing and lumbering the Sekiu economy is depressed. Requiring such a permit condition would place additional undue hardship upon the residents of Sekiu.

The lack of violations during January to October 1999 may result from Sekiu obtaining a representative influent sample. Previous influent samples had been subjected to settling which could remove up to 60 percent of the influent total suspended solids and 30 percent of the influent 5-day biochemical oxygen demand. Sekiu worked with Ecology’s roving operator trainer to determine how to obtain a representative influent sample.

**Action Taken:**

This comment does not result in changes to the permit.

**6. Comment:**

The effluent from the Sekiu WWTP and the effluent from the Clallam Bay Corrections Center WWTP discharge through the same outfall into Clallam Bay. Page 3 of the fact sheet states “for evaluating compliance with the state water quality standards, the permit writer included both discharges in the mathematical calculations and evaluations”. The relationship between these two facilities is not clearly defined in terms of effluent limitations, monitoring, and sample locations. For example, were the mixing zone boundaries determined using just Sekiu’s effluent or both Clallam Bay Corrections Center’s and Sekiu’s effluent? **PAS recommends that Ecology further describe the relationship between these two facilities effluent limitations, monitoring requirements, etc.**

**Response:**

The Clallam Bay Corrections Center and Sekiu wastewater treatment plants discharge to Clallam Bay through the same outfall. The mixing zone analysis appropriately considered the combined discharge. Permit limitations were evaluated and derived, taking into consideration the mixing and concentrations of the combined effluents, for the Sekiu discharge.

**Action Taken:**

This comment does not result in changes to the permit.

